



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,883	03/19/2004	Yasutaka Ito	110578.03	7146

25944 7590 08/11/2004

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

HOANG, TU BA

ART UNIT	PAPER NUMBER
----------	--------------

3742

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/803,883	ITO, YASUTAKA	
	Examiner	Art Unit	
	Tu Ba Hoang	3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/915,418.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/19/04</u> . | 6) <input type="checkbox"/> Other: ____ |

Art Unit: 3742

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/915,418, filed on July 27, 2001.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Cheung et al (US 5,817,406) cited by the Applicant. Cheung et al reference shows a ceramic heater (40) having temperature control means (i.e., thermocouple 72 as shown in Figures 2 and 14) inside a ceramic substrate (i.e., ceramic member 50 set forth at column 4, line 52), wherein at least a portion of corners of the ceramic substrate (50) (as shown in Figures 1, 2, and 7) or a corner at least on a heating surface of an outer circumference of the ceramic substrate (50) is chamfered (as shown in Figure 6) and the ceramic substrate (50) has through holes (87) with corners of the through holes (87) are chamfered as shown in Figure 8, and at least one of the corners of either the substrate (4) or of the through hole is chamfered into a shape having a C or an R surface (Figures 2 and 8).

Claims 1 and 4-5 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Arena et al (US 5,635,093). Arena et al reference shows a ceramic heater (Figure 2) having temperature control means (i.e., temperature measuring sensor or thermocouples 12) inside a ceramic substrate (4), wherein at least a portion of corners of the ceramic substrate (4) (as shown in Figure 1) is chamfered (as shown in Figure 1, the outer rim of the annular and concentric zone 10), wherein grooves (shown at zone 10 in Figure 2) are formed in the ceramic substrate (4) with the corners of the grooves are also chamfered to accommodate heating elements (6,8) therein and the ceramic substrate (4) is formed by a nitride ceramics such as boron nitride (as set forth at column 3, line 34).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

Art Unit: 3742

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheung et al (US 5,817,406) as applied to claims 1-3 above. Cheung et al reference shows all features of the claimed invention as described above except for the diameter of the ceramic substrate is varied (i.e., the diameter of 200mm or more or of 300mm or more). However, Cheung et al reference discloses that his ceramic substrate can be used to accommodate varying wafer sizes from conventional dimension of 8 inch to 12 inch diameter. It would have been within the purview of obviousness to one having ordinary skill in the art at the time the invention was made to further adapt with a ceramic substrate having such claimed diameters in order to accommodate varying object sizes for effectively supporting and uniformly heating such object.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheung et al as applied to claims 1-3 above in view of Kubota et al (US 5,643,483). Cheung et al reference discloses all features of the claimed invention as described above except for the thickness of the ceramic substrate is 20mm or less.


Kubota et al reference discloses a ceramic substrate having a thickness of less than 20mm (i.e., thickness of 5mm as set forth at column 4, line 56). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Cheung et al the ceramic substrate having such the claimed thickness that taught by Kubota in order to improve mechanical and physical strength to adequately support the object to be treated such as wafers without breaking or warping the substrate.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Ito (US 6,639,188), Kawanabe et al (US 6,133,557), Yoshida et al (US 6,080,970), Inoue et al (US 5,993,625), and Evelove et al (US 3,934,074).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu Ba Hoang whose telephone number is (703) 308-3303. The examiner can normally be reached on Mon-Fri from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Tu Ba Hoang
Primary Examiner
Art Unit 3742

August 09, 2004